ORGANISERS

Capriccio Group

Sebastian Pfaller

Mutliscale Simulations of Polymers

Maximilian Ries

Interphases in Polymer Nanocomposites

CAPRICCIO

Wuyang Zhao

Multiscale Fracture Simulations

Christof Bauer

Adaptivity in Multiscale Simulations

Felix Weber

Debonding in Molecular Systems

REGISTRATION

If you would like to attend the 1st Capriccio Special Seminar, please register here:

www.capriccio.research.fau.eu/2023/03/14/css01/

Head of the Capriccio Group

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FAU
Friedrich-Alexander-Universität
Technische Fakultät

Capriccio Group

1st virtual Capriccio Special Seminar

CAPRICCIO
Special Seminar

Polymers and Polymer Composites:

Linking Experimental and Numerical Viewpoints

April & May 2023

Online via Zoom

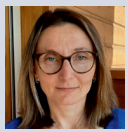
www.capriccio.research.fau.eu

INVITED LECTURERS

L. Catherine Brinson
Duke University, North Carolina, USA

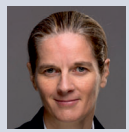
Combined experiments and simulations to understand nanoscale interphase

Anne-Caroline Genix
L2C, Université de Montpellier, France



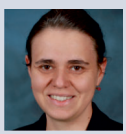
Experimental studies of interfacial layers in polymer nanocomposites

Julie Diani
École Polytechnique, France



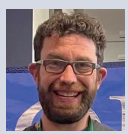
Micromechanics to understand viscoelasticity of polymers

Vera Bocharova
Oak Ridge National Laboratory, Tennessee, USA



Role of interfaces in polymer-based composites

Robert S.Hoy
University of South Florida, USA



Relating mechanical, structural, and dynamical properties of materials

Andreas J. Brunner
Empa, Swiss Federal Laboratories for Materials Science and Technology *

Experimental testing of polymer composites across the scales

* retired from Empa

In the 1st Capriccio Special Seminar (CSS), we aim to link experimental and numerical viewpoints for the investigation of polymer materials as well as polymer composites. Recent studies on modeling, simulation, and experimental investigations shall be discussed, spanning various length and time scales from the micro- to the macroscale. In this context, linking the materials' structures at fine resolutions to their overall properties is of high interest, as well as the connection to experimental investigations and thus possible applications.

This event is a series of weekly talks by experts tackling the aforementioned issues from experimental and numerical viewpoints.

PROGRAMME

Thursday, April 13th, 2023, 4:00 - 5:30 pm (CEST)

L. Catherine Brinson
Nanomechanical AFM for structure, properties and data in multiphase polymers

Thursday, April 20th, 2023, 4:00 - 5:30 pm (CEST)

Anne-Caroline Genix
Recent experimental findings on interfacial layer properties in polymer nanocomposites

Thursday, April 27th, 2023, 4:00 - 5:30 pm (CEST)

Julie Diani
Using micromechanics modeling to better understand the linear viscoelasticity of heterogeneous polymers

Thursday, May 4th, 2023, 4:00 - 5:30 pm (CEST)

Vera Bocharova
Understanding role of interfaces on macroscopic properties in polymer-based composites

Thursday, May 11th, 2023, 4:00 - 5:30 pm (CEST)

Robert S. Hoy
Polymeric entanglement: From flexible to stiff

Thursday, May 25th, 2023, 4:00 - 5:30 pm (CEST)

Andreas J. Brunner
Quantitative experimental data from fracture testing of fiber-reinforced polymer-matrix composites for use in modelling fracture on different scales

The 90 minutes Zoom-seminars comprise a 45 minute talk and a subsequent discussion to allow scientific exchange.

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